

November 2, 1943

MEMORANDUM FOR

Lt. Col. STONE, Medical Section,
NATOUA

From F.L. SOPER
Representative Rockefeller Health Commission
in North Africa
Civil Affairs Section

Subject : Directions for use of Louse Powder in group delousing of Army personee, prisoners of war and refugee camps.

In accord with your verbal request, I am submitting below suggested directions for the use of Louse powder in group delousing programs, based on the experience of our group, which is, as you know, relatively quite limited. Further experience may be expected to lead to modifications of these directions.

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The application of louse powder (U.S. Army "Powder for Body Crawling Insects") by hand dusters is a rapid simple method of controlling body lice with readily portable materials. The removal of clothing from the body and special bathing at the time of delousing are unnecessary with this method.

Materials. The only materials required are the louse powder and a suitable hand duster.

1. The present U.S. Army "Powder for Body Crawling Insects" is obtained through the Quartermaster in 60 pound cases (6 cartons of 10 pounds each). This powder kills lice and other insects but is not poisonous for man unless taken by mouth. (Powder should never be stored in nor about the kitchen where it might accidentally be mixed with food).

2. The "Superbilt Hand Duster" made by the Dobbins Mfg. Co. which can be obtained through the Quartermaster has been found best among the small hand dusters tested. The delivery tube of this duster is straight and inflexible and is too long for easy manipulation. In practice, it has been found advantageous to saw the tube in two equal lengths. The two tubes thus obtained are half length, one having a nozzle for spreading the powder, the other having an unobstructed opening.

3. In the absence of hand dusters, powder may be applied by sifting from a tin can. In practice, a cylindrical can, not over 3 1/2 inches in diameter with one or more rows of small holes punched in the side wall of the can parallel and close to the bottom of the can has been found useful. This method is satisfactory if clothing is removed from the body.

4. The louse powder now being used takes several hours to kill and does not knock out the lice immediately. However, it remains effective for some weeks after a liberal application. The active principle is not soluble in water and some insecticidal action generally continues in spite of washing of clothing.

The powder does not kill the louse eggs, and small lice may continue to be found on dusted clothing for a week or longer after dusting. These small lice die soon after they begin to crawl around on the dusted clothing.

Procedure for powdering a man

The powder compartment of the Superbilt Duster is filled about 3/4 full of Louse Powder. The delivery of powder should be tested in the open with the duster so rotated that the delivery tube is on the upper side. Unless a heavy cloud of powder and air is obtained in this position, the duster should be examined for stoppage both at the nozzle and at the outlet holes leading from the powder chamber to the delivery tube. Either the nozzle or the straight tube may be used and according to the work being done and the preference of the operator.

In using the duster, the operator should remember that powder should be distributed on the inner surfaces of the inner garments and on the skin itself. Those doing the work for the first time should have the clothing removed from the first persons powdered to observe the results obtained. If properly done, the entire inner garments should be more or less completely covered with powder and there should be visible powder on the body hairs of the chest, back, thighs, armpits and of the pubic and perineal regions. Since body lice are most often found in the seams of the clothes about the neck, armpits, waist, shirt tail and crotch of the pants, these areas are particularly important ones to be powdered.

The dusting of individuals should follow a certain routine to avoid missing some parts of the clothing as must occur at times where each person is handled differently. The following routine has been found useful :

1. Dust inside of hat and replace hat on head.
2. With arms extended at shoulder height at the sides (not in the front) of the body insert delivery tube up first the right and then the left sleeve and pump powder in between the skin and the innermost garment. Powder should reach well into the armpit and the position of the gun should be shifted to get powder all about the shoulder.
- In case the subject is wearing more than one layer of clothing, dust should be applied between his underwear and shirt as well as between the under wear and the skin.
3. The delivery tube is next inserted at the back of the neck and a liberal charge of powder shot down the back, care being taken to dust the neckband itself.
4. The tube is next inserted inside the clothing from in front and powder sprayed first on one side, then on the chest and lastly on the other side special care being taken to again reach the armpits.
5. The tube is next inserted after the trousers are loosened, inside the innermost garment and a good dose of powder delivered to the crotch and pubic area. With the tube still in contact with the skin, the underclothing is powdered, special attention being paid to the waist and side seams.
6. With the trousers still loose, the tube is inserted down the rear of the pants next the skin and powder is shot down over the buttocks and rear of the crotch.

Note : If more than one layer of clothing is being worn, steps 3. 4, 5 and 6 above are repeated for the second layer from the skin.

How to powder without dust gun

If no dust gun is available, powder may be shaken on to clothing with the shaker described above but it is necessary to remove the clothing from the body.

To treat a man, powder his hat, then remove his coat and lay it on a table. The garment should be flat, spread wide open so that the whole inside and armholes can be seen. Powder the inside of the coat, taking particular care to get powder along the seams and down the arms. Next lay the trousers on top of the coat with the front open so that the seat is seen from the inside. Powder the region of all seams, particularly at the crotch, and shake powder down both legs. The shirt is next added to the pile of clothing, powdered in the same manner as the coat. Finally, the underwear is added; this should be powdered inside and out. Shoes are not powdered.

When all the clothing is powdered, the pile of clothes is folded up and given several hard blows to fluff the powder about, then the clothes are handed back to their owner and immediately put on again.

Procedure for powdering extra clothing blankets and bedding

Although probably 95 % of all lice are generally to be found on the person and the clothing in use, extra clothing and bedding may be infested and may be a serious source of reinfestation.

In dusting extra clothing and bedding with the hand duster, the delivery tube should always be between two of the surfaces to be dusted thus speeding up the work and avoiding waste of powder. Clothing is dusted without turning inside out with delivery tube well inside the garment. A mattress is dusted by placing a blanket over it and dusting between the two. (Care should be taken to dust sides and seams of mattresses). Blankets are dusted by piling one on top of another, or by folding and dusting between two layers of fabric. Where plenty of help is available, folded blankets may be held in the air, but where help is limited, blankets are folded twice, piled one on top of the other and dusted between each layer. The larger pieces of bedding are dusted first and all of the powdered pieces piled up together. When finished, this pile is given several hard blows to fluff the powder about in the blankets, into seams, patches, etc.

When the hand duster is not available, the shaker tin is used to shake powder down on successive layers of bedding and blankets, the powdered upper surface of one blanket powdering by contact the under surface of the next. When finished, the pile should be beaten to equalize the distribution.

Extra clothing is dusted as described above under "How to powder without the dust gun".

Shoes, canvas packs, musette bags, boxes and similar objects are not dusted.

Amount of powder needed

The powder required for dusting a person varies with the amount of clothing worn. About 1 $\frac{1}{2}$ ounces is required for the average adult male in fall or winter dress and 2 ounces per man will often be used. Those supervising dusting should constantly check the amount of powder being used and insist on an adequate amount (1 $\frac{1}{2}$ average).

The powder used on bedding likewise varies with the type and amount of bedding. With men equipped for camp life, it may equal or exceed the amount required for their clothing. In making preliminary estimates, one case of powder (60 lbs) should be allowed for each 250 men.

Rate of dusting

Where the men to be dusted are under discipline, a team of two men with hand dusters can dust about 35 to 40 men and their bedding per hour, with the help of the men themselves in handling their bedding.

Administrative procedure

The administrative procedure for powdering will vary with the size of the group to be dusted, the layout of the camp or dwellings and the opportunity of bringing its members and their bedding together. The application of powder is so simple that wherever a large group is to be dusted, members of the group itself can be easily trained to work under supervision.

Where conditions warrant it, dusting can be carried out in barracks or tents each man and his bedding being dusted at the same time. This affords an easy check on absent members of the group, whose names should be recorded for later dusting. It is very important to dust all members of a group, in order to avoid group infestation.

Other uses of louse powder

The louse powder is primarily provided for the elimination of the body louse. It is also a poison for head lice, crab lice, fleas and bed bugs.

For head lice, powder the scalp thoroughly especially above and behind the ears. Do not neglect the hat. For crab lice, dust thoroughly all hairy parts of the body.

Although fleas are not such intimate and constant parasites as lice, the annoyance from them can be greatly reduced by powdering both clothing and bedding. Where dog or cat pets are a source of fleas both the animals and their beds may be dusted.

For bed bugs, powder the bedding and nearby cracks in the bed and walls where they may be hiding.

The dusting of bedding will prevent infestation by fleas, bed bugs and other pestiferous insects. This dusting needs only be repeated at 2 or 3 weeks intervals.

Intervals between dustings

As stated above, the present U.S. Army "Powder for Body Crawling Insects" is a persistent poison which remains active for some time on dusted fabrics.

Where troops or others are working in contact with infested populations, monthly applications should be adequate to prevent any serious infestation.

Where native laborers are working in contact with troops but mingling with heavily infested native populations, a monthly dusting should prevent such laborers from becoming important sources of infestation. This monthly dusting should include as much of the clothing as possible.

The interval between dustings in a prison camp or in any other relatively isolated group will vary with the completeness of the initial work and the degree of reinfestation which occurs.

Before the redusting of such a group is ordered, careful examination of the inner surfaces of the clothing worn next to the skin by a number of individuals of the group should be made. Especial attention is given to the seams of the arms, armpits, neck waist and crotch. Where any degree of lousiness is revealed by this search in an appreciable percentage of those examined, the entire group should be redusted.